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(E73-10818) STREAM NETWORK ANALYSIS FROM
ORBITAL AND SUB-ORBITAL IMAGERY
Quarterly Progress Report (Texas Univ.)
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QUARTERLY PROGRESS REPORT FOR
CONTRACT NAS 9-13312

"Stream Network Analysis from Orbital
and Sub-Orbital Imagery"

submitted by
Victor R. Baker
Principal Investigator

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Accomplishments and Problem Areas

Principal accomplishments of the project to date have been the following:

- (1) field selection and reconnaissance of 20 drainage sub-basins for network analysis;
- (2) refinement and testing of digital computer techniques for data collection and analysis;
- (3) detailed field mapping of drainage patterns in selected sub-basins;
- (4) preliminary stream network definition and analysis from topographic maps and conventional aerial photographs;
- (5) collection and interpretation of existing hydrologic records for the study area.

The only problem area is the lack of N.A.S.A.-supplied orbital and sub-orbital imagery for analysis. We expect that this problem will be resolved in the course of the next Skylab mission.

Outlook

Because of the lack of EREP and aircraft data for analysis, the first 3 months of the project concentrated on background research, surveys of existing data sources, and testing of analytical techniques. Project personnel spent approximately 4 man-months on this effort. Dr. Baker spent 2 months; S. Hulke (research assistant) spent 1 month; Dr. Holz (co-investigator) spent approximately 1 month, while on university salary not with N.A.S.A. support. This effort has prepared us for rapid computer-assisted drainage network analysis from remote sensing imagery. During the next Quarter we hope to receive the necessary imagery and to put our analytical system into practice. Until then we will continue to refine our computer techniques, assemble hydrologic data, and analyze drainage networks from topographic maps, photographs, and field surveys.

Travel Summary

The only travel for the grant to date has been the several field surveys of central Texas drainage basins. We expect to continue with similar surveys during the next quarter and to perform the ground truth operation during the mission.